

TITLE: Process for the preparation of ACAT inhibitor from
Schizandra chinensis baillon

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ABSTRACT

Acyl-CoA:cholesterol acyltransferase(ACAT) activity inhibitors, lignan compounds, which may be produced from *Schinzandra chinensis* Baillon, are provided to give high protection and treatment for cardiovascular disorders, such as hyperlipidemia, arteriosclerosis and the like, which are induced by high cholesterol in human being.

First Hit

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TITLE: Method for manufacturing acyl-CoA:cholesterol acyl-transferase activation inhibitor using fruits of Schisandra chinensis NoAbstract

INVENTOR: BAE, K; BOK, S ; HYUN, B ; JUNG, H ; KIM, M ; KIM, Y ; KWON, B ; BAE, G H ; BOK, S H ; CHUNG, H J ; HYUN, B H ; KIM, M G ; KIM, Y G ; KWON, B M

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KOMBUCHA UNVEILED



Part Six - Research And Test

Results



Past and Present



"There is nothing permanent except change"

Heraclitus - 540-480 BC

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Last update May 2000



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- Disclaimer for Part Six of the Kombucha FAQ
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1. A DOZEN EXPERIMENTS

(by Michael Roussin

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This material has been removed at the authors request. He is editing the material and will place it on line as a E book. The material removed is the newest and most accurate to date about kombucha and its analysis. Mike was kind enough to allow us to present the material for about 5 years. He is trying to recoup the costs incurred by the research group while they were doing the analysis. I wish him luck and fully support him. His current website follows:

<http://www.kombucha-research.com>

Bob Williams / Current owner of the Kombucha FAQ

2. LAB TESTS ON KOMBUCHA TEA

by John Novar of Kombucha Power

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TEST #1

The following tests were done October 5, 1995 by Kappa Labs in Miami Florida for John

M. Novar of Kombucha Power. They are based on a 4 ounce serving of Kombucha tea.

This information is reprinted with permission from John Novar of Kombucha Power. The following lab analysis was done by Kappa Labs in Miami Florida.

KOMBUCHA TEA NUTRITION FACTS

Serving Size	4 fluid ounces (120 ml)
Servings Per Container	8
Calories Per Serving	40
Calories per Serving From Fat	0
PERCENT DAILY REQUIREMENTS	
Total Fat	0g - 0%
Sodium	0mg - 0%
Total Carbohydrate	8g - 4%
Sugar	8g - 4%
Protein	0g - 0%
VITAMIN CONTENT	
Vitamin C	0.1152 mg
Niacinamide	0.6420 mg
Folic Acid	0.2794 mg
Riboflavin	1.1594 mg

Amount of sugar found in 1 fluid ounce (29.573 ml) Kombucha Tea

Sucrose	0.22 g
Glucose	0.78 g
Fructose	0.65 g
Total Amount Sugar	1.65 g

John M. Novar
13055 SW 83rd Avenue
Pinecrest, FL 33156-6648

<http://www.kombuchapower.com/>

800-862-1353 - 305-251-9630 - Fax 360-397-7080

"John Novar" <[Mailto:jnovar@netzero.net](mailto:jnovar@netzero.net)>

TEST #2

KAPPA LABORATORIES, INC.

2577 N.W. 74th Avenue, MIAMI, Florida 33122

Phone (305) 599-0199 FAX (305)592-1224

May 7, 1996

CERTIFICATE OF ANALYSIS

Kombucha Power Products

2121 Ponce De Leon Blvd.

Suite 522 Coral Gables, Florida 33134

Re: Microbiological results obtained from
one (1) Kombucha Tea, bottled 12/95.

The sample was delivered to Kappa Laboratories, Inc., 2577 N.W. 74th Avenue, Miami, Florida, 33122 on April 17, 1996. The product was submitted by Kombucha Power Products, 2121 Ponce De Leon, Suite 522, Coral Gables, Florida 33134

Microbiological sampling and preparation of one (1) specimen was carried out according to the AOAC Methods 46.013. The following tests listed were performed according to the AOAC methods cited:

- Total Plate Count (Aerobic Plate Count): was performed according to APHA Methods, Compendium of Methods for the Microbiological Examination of Foods, 2nd ed.,(4.52).
- Coliform Count: was performed according to AOAC Method 46.016, 14th ed. From the test sample, 1 ml dilutions were prepared in Lauryl Sulfate Tryptose broth.
- E. coli: determination (AOAC 46.016, 14th ed.) in computing MPN of E. coli / gm, considering Gram Negative nonspore-forming rods, Lactose gas producing and Indole (+), MR (+), VP (-) and Citrate (-) as indicating E. coli.

Coagulase-Positive Staphylococcus (Staphylococcus aureus): was assayed according to

AOAC methods 46.136, 14th ed. to determine count/gm sample using direct triplicate plating on Baird-Parker agar with direct colony count. Positive colonies were confirmed by the Coagulase reaction. KAPPA LABORATORIES, INC.

RESULTS

Sample 1 - Kombucha Tea

Total Plate Count	<100 cts. per gram
Coliforms	<3.0 cts. per gram
E.coli	<3.0 cts. per gram
Coagulase Positive Staph. Aureus	<100 cts. per gram

(Triple Tube Method for Coliforms)

Control - Microbial

Total Plate Count	Negative
Coliforms	Negative
E.coli	Negative
Coagulase Positive Staph. Aureus	Negative

(Triple Tube Method for Coliforms)

Note: less than (<) sign indicates Negative growth for that bacteria at the lowest level expressed. For example, <10 cts. Per gram would indicate Negative, or no growth, for the bacteria at a concentration of 1.10, if the bacteria is present it is less than this concentration.

Based upon the Microbiological Results of the samples listed above and insofar as the analyses performed were able to assay for the presence or absence of specific pathogens, the product represented by the sample analyzed would appear to be wholesome and fit for human consumption.

Kappa Laboratories has been inspected and is currently certified by the U.S. Department of Agriculture (USDA Microbiology-#0093); the Florida Dept. of Health and Rehabilitative Services, in Microbiology (HRS-#86260); Pesticides, Herbicides, PCB's (HPLC) (HRS (E86515); Registered with the U.S. Food and Drug Administration (FDA-

#1039389) and is an FDA Accepted Laboratory for Import Testing. Kappa Laboratories is an elected Associate Member of the Meat Importers Council of America, Inc. (MICA).

Signed: Dr. Peter J. Kmieck-Director, Kappa Inc.

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3. CHARACTERIZATION OF THE TEA FUNGUS METABOLITES

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SUMMARY

Tea fungus (commonly designed as "kombucha") is a symbiotic culture of at least three microorganisms: The acetic acid bacteria *Acetobacter xylinum* and two yeasts *Zygosaccharomyces rouxii* and *Candida sp.* on sugared tea (Hesseltine, 1995; Anonymous, 1983). These microorganisms were cultured in their traditional medium and several metabolites cultured were identified and quantified: ethanol, lactic, acetic, gluconic and glucuronic acids. The antibacterial product known as usnic acid was also searched.

INTRODUCTION

The symbiosis culture of *Acetobacter xylinum* and yeasts (namely *Zygosaccharomyces*

rouxii, *Candida sp.* and other species) produces a zooglear mat. (Hesseltine, 1965; Kozaki et al., 1972). The name "Tea Fungus" is a misnomer and arises from the bacteria's unique ability to synthesize a floating cellulose network that resembles surface mold on non-agitated medium. (Fontana et al., 1991). This cellulose network is similar in composition to "mother of vinegar."

This symbiotic culture is grown traditionally on black tea with sucrose for 7 days and gives a pleasantly sour and sparkling beverage (teakwass) under aerobic conditions (Reiss, 1994). Longer incubations results in an increasing production of acetic acid and in the formation of a mild vinegar. The consumption of fermented tea was first practiced in 220 BC. in Manchuria. It then spread to Russia where a wide literature on teakwas is available (Frank, 1990). During W.W.II, this beverage was introduced to Germany, then in the 50's, it arrived in France as well as France-dominated North Africa, where its consumption was quite popular (Chambionnat, 1952; Zottner, 1952; Abadie, 1961). Presently, its consumption is popular in the United States, this popularity is mainly due to its refreshing power (because of its low ethanol content) and to speculative curative effects (including detoxification properties from the high content in glucuronic acid, presence of vitamins B1, B2 and B6, antibacterial properties due to the presence of usnic acid (Steiger and Steineger, 1957; Stadelman, 1961; Hauser, 1990).

A similar cellulose network floating at the surface of various fruit juices (namely coconut and pineapple) fermented by a symbiotic culture composed of *Acetobacter xylinum* and yeasts and named "Nata" is consumed in the Philippines as a delicacy (Lapuz et al., 1967; Dolendo and Maniquis, 1967). Lastly, in Brazil, this cellulose network is used for the treatment of burns and other dermal injuries and is produced by a pure culture of *Acetobacter xylinum* grown on a medium composed mainly of sucrose and tea xanthines (Fontana et al., 1991).

This work will focus mainly on the presence of ethanol, organic and usnic acids in fermented tea.

MATERIAL AND METHODS

Biological material and cultural conditions of the Tea fungus

Tea fungus was received from Paper Ships (San Anselmo, Ca. USA). 5 g of black tea (Lipton bags) were placed in 1 litre of boiling tap water during 15 minutes. Then this medium was sterilized at 121 C for 20 minutes. Sucrose was added to tap water in Roux flasks, in order to get, after addition of tea, concentrations of 0, 50, 70 and 100 g/l of sucrose.

The concentrated solutions of sucrose were also sterilized at 121 C for 20 minutes.

Sterile tea solution was then added to the Roux flasks after cooling to room temperature. Thus, each flask contained 250 ml of culture medium. Flasks were then inoculated by 20 g of tea fungus coming from a mat obtained by the same conditions. The cultures were incubated at 20 C without agitation, away from direct light.

Analysis of substrate and metabolites

Sucrose, ethanol, acetic and lactic acids concentrations in the culture supernatants were evaluated by HPLC under the following conditions: ION 300 INTERACTION column, H₂SO₄ 0.5 mM as mobile phase, room temperature, refractometric detection. Gluconic and glucuronic acids concentrations were evaluated by HPLC under the following conditions: ION 300 INTERACTION column, H₂SO₄ 0.5 mM as mobile phase, room temperature, UV detection.

RESULTS AND DISCUSSION

pH value

The pH of the cultures was 6-7 at the beginning of the incubation period and dropped quickly as a result of acid formation.

SUCROSE INITIAL CONCENTRATION				
Day of incubation	0	50 g/l	70 g/l	100 g/l
0	7	7	7	7
1	4	4	4	4
3	3	3.5	3.5	3.5
5	3	2.5	2.5	2.5
6	3	2.5	2.5	2.5
10	3	3	2.5	2
12	-	2	2	2

Effect of the initial carbon source concentration on metabolites production

The experimental data are summarized on figures 1, 2, 3 and 4 which show the consumption of sucrose and the production of metabolites (ethanol and organic acids) in the Roux flasks. The cultures were stopped after 10 days of cultures (no sucrose) or

after 25 days (50, 70, 100 g/l of sucrose initial concentration).

In the four flasks, ethanol concentration rose to a maximum and subsequently declined. The maximal concentration (1.34 g/l) was obtained after 5 days of incubation in the flask with 100 g/l initial concentration of sucrose.

The acetic acid which was converted from ethanol rose also to a maximum (4.5-5.6 g/l) until the 15 days of incubation and also subsequently declined.

The gluconic acid concentration was steadily increased, reaching high concentrations (> 30 g/l) after 20 days of incubation for 70 and 100 g/l sucrose initial concentration. The production of lactic acid is not shown in these figures because the concentration was never higher than 0.6 g/l (sucrose initial concentration 100 g/l). The presence of glucuronic acid was also detected but at very low concentrations (<10 mg/l).

CONCLUSION

Our results are a bit different from Reiss's ones (1994) but as he said the composition of different fermented tea preparations greatly depended upon the individual tea fungus used. According to our work, glucuronic acid was produced at low concentrations by the tea fungus. In the liver, glucuronic acid binds up toxins both environmental and metabolic via UDP-glucuronyltransferase, and brought them to the excretory system, so these concentrations of glucuronic acid could be an explanation to all the speculative curative effects which are attributed to the daily consumption of fermented tea (commonly named "kombucha" tea).

Presently, usnic acid was not detected but we intend to study tea fungus from other origin (Europe). To go on maintaining the non-contamination of the medium after inoculation but also to better approach the home-made conditions of culture, we intend to replace the Roux flasks by Fernbach flasks which will allow to study higher volumes of culture with great surface of exchange with air.

ACKNOWLEDGMENTS

The author is thankful to Marie-Odile Loret and Stéphanie Bangoula for their technical assistance.

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4. PAST RESEARCH ON KOMBUCHA 1915 - 1964

Compiled by Colleen Allen

1915 Professor S. Bazarewski

Professor S. Bazarewski brought forth a report in the "Correspondence for the Association of Nature Researchers in Riga," 1915, that among the Latvian population of the Baltic Russian Provinces of Livland and Kurland, they had a folk-remedy by name of "Brinum-Ssene" Verbally translated, it means 'Wonder-mushroom'. The Latvian population ascribed to this mushroom "a wonderful healing power for many diseases", according to Bazarewski. Some people asked by Bazarewski insisted that it helps for headaches, but others assured him that "this mushroom is useful for all diseases."

1915 H Waldeck

H Waldeck tells of a chemist he met during W.W.I in Russia-Poland, 1915, with whom he had his quarters, and who cooked for him a "Wonderdrink" against his severe constipation.

The chemist entrusted to Waldeck that he always keeps this "Russian secret home remedy" at hand, it being said that it is good for all kinds of ailments and because it naturally formed acids, it successfully counters aging problems, thus contributing to life extension.

1916 Prof. Dr. Lakowitz

One year later, Prof. Dr. Lakowitz corroborated Waldec's statements about the cure-all mushroom and its effect on digestive disturbances. He also discovered that it was able to quickly remove many gastric illnesses and also headaches of a nervous origin.

1917-1918 Prof. B. Lindner

Prof. B. Lindner reported that "the remedy is mostly used as regulator of the intestinal activities. Also Hemorrhoids were cured."

1917-18 Professor Rudolf Kobert

Professor Rudolf Kobert reports "that fermented tea is helpful in the regulation of

intestinal disorders as well as the treatment of hemorrhoids."

Simultaneously, Professor Rudolf Kobert released his findings that showed he had few doubts that the beverage was highly effective against joint rheumatism.

1926 Dr. Wilhelm Henneberg

Like Professor Linder, Dr. Wilhelm Henneberg in 1926, mentions the remedy "Teekwass" as a home remedy throughout Russia where it was also considered a great healer against many diseases and in particular constipation

1927 Dr. Madaus

In 1927, Dr. Madaus revealed in "Biologic Healing Arts," that the mushroom has the ability to regenerate cellular walls and for this reason is particularly helpful in arteriosclerosis.

1928 "White Flag"

Also in 1928, the "White Flag" reported that Kombucha is now noted for its beneficial effects of detoxifying the system, cleansing the blood and the rapid clearing of facial skin rashes. Doctors report that it is a treatment for pains in the limbs, gout, constant headaches, rheumatism and general aging problems. Physicians usually expect its healing work to be noticed within a few weeks of commencing treatment and possibly attribute this to the beverage's high vitamin content and hormone effect. It is known to be a metabolic stimulant and assists the body in the excretion of countless disease toxins.

1928 Prof. Br. Lakowitz

Prof. Br. Lakowitz confirms Waldeck's statement that digestive disturbances are quickly removed by the mushroom-tea. Strong headaches and nervous disturbances also are removed experientially. Lakowitz comes to the conclusion: "An extensive spreading of the mushroom-tea for the production of such Tee-Kwasses as a remedy against digestive disturbances is desirable for all types of people."

1928 Dr. Maxim Bing

Further reports in the same year from Dr. Maxim Bing, recommended Kombucha for arteriosclerosis, gout and also intestinal deficiency. With arteriosclerosis, a freshly prepared culture of the mushroom may alleviate symptoms of high blood pressure, anxiety, irritability, pains, headaches and dizziness. Constipation caused by a sluggish response of the intestines may also be treated by this remarkable fungus. He also noted

that it was useful in the treatment of kidney stones and was "effective in the capillaries of the Brain". Arthritis and gout are considered to be conditions which may be explained by the accumulation of toxins in the body. When a sufferer of these conditions starts to drink Kombucha on a daily basis, these toxins are dissolved and excreted by the kidneys by virtue of the fact that they couple with glucuronic acid to form soluble glucuronides or paired Glucuronic acid.

1928 Dr. L. Mollenda

Dr. L. Mollenda reports that "the Kombucha beverage is especially effective for disturbances of the digestive organs by practically normalizing their functions. Moreover, the drink has proven itself as helpful for gout, rheumatism, and diverse stages of arteriosclerosis." About additional areas of application he writes: "In the case of angina, especially when there is a coating of the tonsils, the drink should not merely be used for gargling but for drinking, and that for the destruction of bacteria which reach the stomach through food and drink. Such gargling in angina brings fast recovery, and in pains of gout and arteriosclerosis, surprising successes are reached even in serious cases. . . . even though the beverage is acidic, it does not cause any acidic condition in the stomach; it facilitates and noticeably promotes the digestion even of difficult to digest foods. Equally favorable successes after taking Kombucha beverage have also been reached for gouty eczema and for stones in kidneys, urine, and gall bladder."

1929 Dr. Siegwart Hermann

Dr. Siegwart Hermann describes experiments with cats who had been poisoned with Vigantol (an anti-rickets Vitamin B-preparation). He noted a positive influence in their cholesterol level when the animals received Kombucha extracts. This is interesting because in cases of human arteriosclerosis there is also a raised cholesterol level. Hermanns' resume based on these experiments is: "The observations by doctors at the sickbed, as also the animal experiments, showed that folk-wisdom quoted effects have been observed in general."

1929 Dr. E. Arauner

Dr. E. Arauner (1929) reports of diverse medical reports and evaluations and reaches the following conclusion: "In summary, one can say that the Kombucha mushroom or its extract, has proven itself as excellently prophylactic against diabetes, but especially against aging problems such as arteriosclerosis, high blood pressure with its consequences such as dizziness, gout, hemorrhoids; for the very least it is a pleasant laxative." Dr. Arauner reports "that in his home-country the tea-mushroom has been in usage for centuries by Asian people because of its surprising healing successes, being a

most effective, natural home-remedy for tiredness, fatigue, nervousness, beginning aging problems, arteriosclerosis, intestinal lassitude, gout and rheumatism, hemorrhoids, and diabetes."

Arauner adds to this, "that not only professors, doctors and biologists have confirmed the surprising healing successes but also those who have imbibed the mushroom-tea report about entirely excellent effects on the general body functions."

1944 Hans Irion

RESEARCH FROM 1944 TO 1987.

In 1944, Hans Irion, the Director of the Academy for Chemists in Braunschweig reports in the "Course for Druggist Specialty Schools (vol. 2, page 405)" that "Teekwass invigorates the entire glandular system and is highly recommended for gout and rheumatism, furunculosis, arteriosclerosis, high blood pressure and aging problems. By further harmonizing and balancing the metabolism, unwanted fat deposits in the body are removed or prevented from building up. Damaging deposits of uric acid and cholesterol are converted into more soluble forms where the body can easily excrete them via the kidneys and intestines."

1948 Dr. Madaus

According to Dr. Madaus in the "Biologic Healing Arts" (1927), "the mushroom and its metabolic products has excellent influence on the regeneration of the cellular walls, and is therefore an excellent remedy for arteriosclerosis."

1950s Moscow Bacteriological Institute

Moscow Bacteriological Institute,

Scientific exploration of the fungus commenced in the 1950s with the Moscow Bacteriological Institute (as part of their research project on the investigation of cancer throughout the country). They discovered that it was not as initially thought, a single organism but a symbiotic colony of several bacteria and yeasts with highly complex and sophisticated metabolic pathways. They isolated the following organisms: *Bacterium xylinum*, *Bacterium xylinoides*, *Bacterium gluconicum*, *Saccharomyces ludwigii*, *Saccharomyces apiculatus* varieties, *Schizosaccharomyces pombe*, *Acetobacter ketogenum*, *Torula* varieties, *Pichia fermentans* and other yeasts. This group of organisms shows a distinct antibiotic effect through the presence of usnic acid which is present in some lichens. There is also evidence that usnic acid may deactivate certain groups of

viruses

1951 Central Oncological Research Unit and the Russian Academy of Sciences in Moscow

In 1951, the "Central Oncological Research Unit" and the "Russian Academy of Sciences in Moscow" statistically analyzed the incidence of cancer throughout all the cities and districts of the USSR. It follows that any particular area with a low incidence of cancer deserved special scrutiny from the research teams. In the research program, data was collated on environmental conditions and the everyday habits of the people were closely examined for any possible clues about their extremely high resistance to cancer.

In particular, the districts of Ssolikamsk and Beresniki - in the Western Ural Mountains - were studied since there were hardly any recorded cases of cancer. Most surprising to the researchers was that this area, in particular, was a rapidly expanding industrial zone where highly toxic metals were manufactured such as potassium, lead and mercury together with asbestos.

All this industrial pollution rated the area as one of the most toxic throughout the USSR and this was evidenced by dead fish floating in the Kama river and many species of trees were withering away with the uptake of so many industrial pollutants. Research teams focused on Ssolikamsk and Beresniki districts in an attempt to understand the unusually low incidence of cancerous disease in the population despite the surrounding environment.

Living conditions, sleeping, eating and drinking patterns were investigated. Ethnic differences were taken note of together with genetic origins of all the inhabitants. Age was also considered and despite the thorough analysis of numerous factors, the research teams lead by Dr. Molodyev and Dr. Grigoriev were unable to discern any appreciable differences to other districts in the USSR that displayed a higher cancer rate which was closer to the national average.

The mystery finally unfolded one day when Dr. Molodyev visited a local household to make more detailed inspections. On questioning the housewife about what they eat and drink he was introduced to some stoneware jars as being the source of their "Tea Kwass" a very popular drink throughout the district and one that every household enjoys. She uncovered the jars to reveal a large fungus floating on top of some liquid. To the locals, this was "Tea Kwass."

On questioning where she had obtained the fungus from, the woman said "that travelers had brought it with them from China many centuries ago. It was thought that the Chinese had originally obtained it from the Japanese." To further substantiate the possibility

that there may be some connection between drinking "Tea Kwass" and a very low cancer rate, Dr. Grigoriev in Beresniki also found that every household in the region possessed the fungus and drank large quantities of the ferment each day.

CANCER SUFFERERS AND LACTIC ACID

Cancer patients rarely exhibit the L-lactic acid (+) component in their connective tissues. If present in sufficient quantities, it is thought that cancer may not develop. When lactic acid is deficient then cellular respiration starts to fail and consequently there will be a build up of D-lactic (-) in the tissue. If both of these types of lactic acid exist in balanced proportions in the tissues then cancer may be the outcome.

1954 G.F. Barbancik

The first description having mushroom-tea as its theme in book form appeared in 1954. This booklet of 54 pages is written in the Russian language and carries the title "The Tea-Mushroom and Its Therapeutic Properties." The author, G.F. Barbancik, refers in his introduction to the first application of the mushroom-tea decoction (in 1949) as a healing remedy at the therapeutic clinic of the Omsker Hospital for water laborers. He reports of successful therapy for tonsillitis, diverse internal diseases, especially those of inflammatory nature, stomach catarrh due to deficient acid production, intestinal inflammations, dysentery, arteriosclerosis, high blood-pressure, scleroses, etc.

1958 Prof. G. F. Barbancik

Russian researcher, Prof. G. F. Barbancik, who in 1958 reported that "the tea fungus bacteria energetically suppress the growth of all other microbes."

1959 I. N. Konovalow

As early as 1959, the Russian researcher I. N. Konovalow reports that the potent growth of the Tea Kwass directly suppresses the colonization and growth of other types of yeasts and bacteria.

1961 Dr. Valentin Koehler

Over thirty years later in 1961, Dr. Valentin Koehler wrote in the periodical "Medical Practice" about the medical effects of glucuronic acid and how that this natural method was giving courage to cancer patients. This sparked off a debate about the existence of the Kombucha culture and Dr. Koehler was encouraged with the results that he was observing in his patients. He considered that in the long term, Kombucha may well

increase the overall performance of the immune system and boost interferon production. It seems to be that around the late 1950's and early 1960's that the scientific community became aware of the cancer healing properties of the fungus.

1964 Dr. Rudolf Sklenar

The medical doctor, Dr. Rudolf Sklenar of Lich, Oberhessen, reported in 1964 in the periodical "Experiential Healing Science" about his methods of diagnosis and therapy successes: "An outstanding natural remedy is the mushroom beverage named Kombucha, which acts detoxifying in every regard and which dissolves microorganisms as well as cholesterol." Dr. Sklenar had developed a biologic cancer therapy in which Kombucha, as well as other biologic remedies such as Coli-preparations, held an important place for the sanitation of the intestinal flora.

In a small publication of 8 pages, titled "Cancer Diagnosis Based on Blood and the Treatment of Cancer, Pre-cancerous Conditions, and other Metabolic Diseases with Kombucha and Coli-Preparations," Dr. Sklenar reports that "vitamins, lactic acids and glucuronic acid are (viruses, bacteria, fungi) and to the dissolution of waste matter and toxic deposits (uric acid, cholesterol, etc.,) Kombucha effects an outstanding detoxification of the organism. Through enjoying this beverage there is, additionally, a noticeable invigoration of the entire glandular system and enhancement of the metabolism." Dr. Sklenar reports "that he was able to treat successfully with the mushroom-tea: gout, rheumatism, arteriosclerosis, arthritis, dysbacteria, constipation, impotence, nonspecific draining, obesity, furunculosis, kidney stones, cholesterol, cancer and especially its early stages, etc."

1964 Dr. Rudolf Sklenar

A few years later in 1964, in the publication "Cancer diagnosis based on Blood and the Treatment of Cancer, Pre-cancerous Conditions, and other Metabolic Diseases with Kombucha and Coli-Preparations" Dr. Rudolph Sklenar of Oberhessen concludes that "it is able to produce an outstanding detoxification of the organism. Additionally, the glands are revitalized and the metabolism is considerably enhanced. For cancer patients, this detoxification process that is triggered by the ingestion of glucuronic acid is good news indeed, for many medical specialists feel that there is a direct link between the overall toxicity of the body and the potential for the onset of tumors and other malignant growths."

1964 Dr. Rudolf Sklenar

Dr. Rudof Sklenar of Oberhessen reported in the periodical "Experiential Healing

Science" about his various techniques of diagnosis and therapy. The tea fungus is mentioned as an outstanding remedy which he considered to be a powerful agent for detoxifying the human body since it dissolves micro-organisms and also cholesterol. Some of his specific cancer treatments were based on the use of fermented tea for the balancing of intestinal flora. With the tea fungus he successfully treated gout, rheumatic conditions, arteriosclerosis, arthritis, dysbacteria, constipation, impotence, non-specific draining, obesity, furunculosis, kidney stones, cholesterol and finally cancer in the early stages of detection.

A J Lodesijkx of Ermelo - a natural healing specialist :

"In the Netherlands, A J Lodesijkx of Ermelo - a natural healing specialist - describes the health-giving benefits of the fungus in his book "Life Without Cancer". He concludes that "the Kombucha fungus has strongly antiseptic properties. It purifies the glandular system and promotes the elimination and neutralization of uric acid." He concludes that "the fermented beverage is an excellent remedy for gout, rheumatism, arthritis, kidney stones, intestinal dysbacteria and early stages of cancer due to its influence on disease causing endobionts. (Red corpuscles are eliminated by these endobionts when the pH of the blood shifts unfavorably to the alkaline side.) Kombucha is considered to be unique in that it actively re-balances the blood pH and thus helps to counter any disease processes that are in operation."

The information compiled for "Past Research on Kombucha Tea" was reported in the following articles:

1. An article on Kombucha by James Roche
2. Fascination of Kombucha by Guenther W. Frank.
3. Kombucha, by Tom Valentine.

7. Results of Study of Magico Kombucha ® and Kombuchion ® in Patients With HIV.

The past 29 th. of November 1998, in Guadalajara Jalisco, México, took place the 3rd. Congress of Alternative Medicine and Acupuncture, where the results of the investigation with Magico Kombucha ® and Kombuchion ® in patients with HIV was given away.

The outcome of the study was remarkable, considering that in a period of 6 months the patients increased the CD4 cells count (between 200-500 cell/ uL). Even though the CD8 remain high, the improvement in the clinical condition was outstanding; referring to:

Weight gain (8 to 16 pounds)

Increase of physical condition (20 to 30%)

Appetite increase and the remission of the following symptoms:

- Depression
- Diarrhea
- Insomnia
- Fever

It would be of value to mention that during the treatment with 1 gram of Magico Kombucha ® or Kombuchion ®, opportunistic infections didn't take place.

Both products contain Fresh freeze dried Kombucha tea capsulated in real vegetable Capsules, Vcaps ®

Yoram Azrad

Mágico Kombucha ® "El Gran Favor Para Tu Cuerpo"
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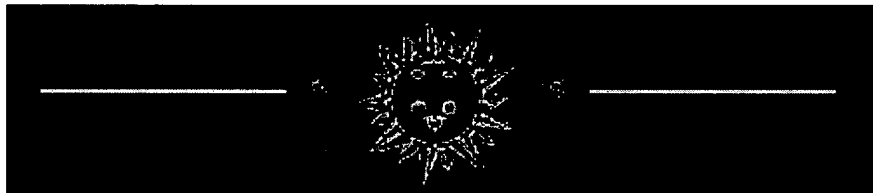
This Frequently Asked Questions (FAQ) is based largely on the personal experiences of the members of the Kombucha mailing list. It should not be regarded as a complete or definitive manual on Kombucha but rather as a collection of practical everyday answers to questions that come up when starting to make Kombucha tea. This article is provided as is without any express or implied warranty. While every effort has been taken to ensure

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